Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1. (Currently Amended) A storage system comprising:

a first interface configured to receive block-level I/O requests;

a second interface configured for file-level I/O;

a third interface configured for communication with another storage controller; and

a data communication path suitable for data communication with a physical storage in order to exchange data with the physical storage in response to the block-level I/O request and the file-level I/O requests,

wherein the block-level I/O requests are serviced by exchanging data with a first storage area of the physical storage and the file-level I/O requests are serviced by exchanging data with a second storage area of the physical storage,

wherein the first storage area is accessed as a first logical volume and the second storage area is accessed as a second logical volume,

wherein the first logical volume and the second logical volume define a consistency group,

wherein data contained in the first logical volume and in the second logical volume can be communicated to the other storage controller in order to replicate the data to secondary storage accessible by the other storage controller,

wherein time consistency of write operations made to and between the first logical volume and ~~to~~ the second logical volume is maintained at the secondary storage, and

wherein, upon receiving a split command directed to one of the first and second logical volumes, split processing is performed on both the first and second logical volumes.

2. (Original) The storage system as recited in claim 1 wherein the physical storage comprises a plurality of physical storage devices.

3. (Currently Amended) A storage system comprising:

a storage controller;

a plurality of physical disk drives connected to the storage controller; and the storage controller including:

a first interface configured to receive block-level I/O requests; a second interface configured for file-level I/O; and

a third interface configured for communication with another storage controller,

wherein the controller presents a first logical volume by using first storage area of the physical disk drives, and a second logical volume by using second storage area of the physical disk drives,

wherein the controller receives a block-level write request to the first logical volume at the first interface and then a file-level write request to a second logical volume at a second interface,

wherein the controller performs a write operation to the first logical volume and a write operation to the second logical volume, ~~and~~

wherein the controller copies, through the third interface, write data corresponding to the block-level write request to a third volume and then write data corresponding to the file-level write request to a ~~forth~~ fourth volume, the third volume and the ~~forth~~ fourth volume being presented by the another storage controller, and

wherein upon receiving a split command directed to one of the first and second logical volumes, the controller controls to execute a split operation on both the first and second logical volumes.

4. (Original) A method for operating a storage controller comprising:

receiving block-level I/O requests at a first interface;

accessing a physical data store to service the block-level I/O requests, including accessing a first logical volume defined in the physical data store;

receiving file-level I/O requests at a second interface;

accessing the physical data store to service the file-level I/O requests, including accessing a second logical volume defined in the physical data store; ~~and~~

replicating the data stored in the first logical volume and in the second logical volume, wherein the first logical volume and the second logical volume are defined as a consistency group, wherein the step of replicating maintains time consistency of write operations performed on and between the first logical volume and ~~write operations performed on~~ the second logical volume; and

upon receiving a split command directed to one of the first and second logical volumes, executing split processing on both the first and second logical volumes.

5. (Original) The method of claim 4 wherein the first interface is configured for communication with a SAN and the second interface is configured for communication with a LAN.

6. (Currently Amended) A method for operating a storage controller connectable to a first storage controller, comprising:

receiving a block-level write request to a first logical volume at a first interface of the storage controller and then a file-level write request to a second logical volume at a second interface of the storage controller, wherein the first logical volume and the second logical volumes are presented by the storage controller;

performing a write operation to the first logical volume and a write operation to the second logical volume; ~~and~~

copying write data corresponding to the block-level write request to a third volume and then write data corresponding to the file-level write request to a fourth volume, wherein the third volume and the ~~forth~~ fourth volume are presented by the first storage controller; and

upon receiving a split command directed to one of the first and second logical volumes, executing split processing on both the first and second logical volumes.

7. (Original) A storage system comprising:

a first interface configured to receive block-level I/O requests;

a second interface configured to receive file-level I/O requests; and

a data communication path suitable for data communication with physical storage in order to exchange data with the physical storage in response to the block-level I/O request and the file-level I/O requests,

wherein the block-level I/O requests are serviced by exchanging data with a first storage area of the physical storage,

wherein write data to the first storage area is copied to a second storage area of the physical storage,

wherein the file-level I/O requests are serviced by exchanging data with a third storage area of the physical storage,

wherein write data to the third storage area is copied to a fourth storage area of the physical storage,

wherein if a split request is received, then at least write data to the first storage area that is received subsequent to receiving the split request is not copied to the second storage area or write data to the third storage area that is received subsequent to receiving the split request is not copied to the fourth storage area, and

wherein, if the split command is directed to one of the first and third storage areas, split processing is executed on both the first and third storage areas.

8. (Original) The storage system of claim 7 wherein if a re-sync request is received then the first storage area is resynchronized with the second storage area and the third storage area is resynchronized with the fourth storage area.

9. (Original) The storage system of claim 7 wherein ~~if~~ the first storage area and the third storage area belong to a consistency group, ~~then~~ such that write data to the first storage area that is received subsequent to receiving the split request is not copied to the second storage area and write data to the third storage area that is received subsequent to receiving the split request is not copied to the fourth storage area.

10. (Original) The storage system of claim 7 wherein the first interface is further configured to communicate with a SAN.

11. (Original) The storage controller of claim 10 wherein the second interface is further configured to communicate with a LAN.

12. (Original) A method for operating a storage controller comprising:

receiving one or more block-level I/O requests at a first interface;

receiving one or more file-level I/O requests at a second interface;

accessing a first logical volume defined in a physical data store to service the block-level I/O requests;

mirroring block-level I/O write requests to a second logical volume defined in the physical data store;

accessing a third logical volume defined in the physical data store to service the file-level I/O requests; ~~and~~

mirroring file-level I/O write requests to a fourth logical volume defined in the physical data store

upon receiving a split command directed to one of the first and third logical volumes, executing split processing on both the first and third logical volumes.

13. (Canceled).

14. (Original) The method of claim 12 further comprising, upon receiving ~~a~~the split command ~~and if the first logical volume and the third logical volume belong to a~~

~~consistency group~~, then ceasing the action of mirroring block-level I/O write requests and ceasing the action of mirroring file-level I/O write requests.

15. (Original) A method for operating a storage controller comprising:

providing a first pair comprising a first logical volume and a second logical volume, and a second pair comprising a third logical volume and a fourth logical volume;

receiving a block-level write request at a first interface;

receiving a file-level write request at a second interface;

performing a write operation to the first logical volume in accordance with the block-level write request;

copying write data corresponding to the block-level write request to the second volume;

performing a write operation to the third logical volume in accordance with the file-level write request;

copying write data corresponding to the file-level write request to the fourth volume; and

breaking both~~at least one~~ of the first pair and the second pair in accordance with a split command directed to one of the first pair or second pair.

16. (Canceled).

17. (Original) The method of claim 15 further comprising, upon receiving thea split command ~~and if the first logical volume and the third logical volume belong to a consistency group~~, then ceasing the action of mirroring block-level I/O write requests and ceasing the action of mirroring file-level I/O write requests.

18. (Original) A storage system comprising:

a controller;

a first physical storage connected to the controller;

a first interface configured to receive block-level I/O requests;

a second interface configured to receive file-level I/O requests; and

a third interface configured for communication with a storage subsystem, the storage subsystem comprising second physical storage,

wherein the controller presents a first logical volume for the block-level I/O requests by using a first portion of the first physical storage, and a second logical volume for the file-level I/O requests by using a second portion of the first physical storage,

wherein the controller presents a third logical volume and a fourth logical volume by using the second storage,

wherein the controller copies data in the first logical volume to the third logical volume and copies data in the second logical volume to the fourth logical volume, and

wherein, upon receiving a split command directed to one of the first and second logical volumes, split processing is performed on both the first and second logical volumes.

19. (Original) The storage system of claim 18 wherein the third logical volume is a mirrored volume of the first logical volume, wherein the fourth logical volume is a mirrored volume of the second logical volume, wherein ~~if a~~when the split command is received, then write data to the first logical volume is not copied to the third logical volume and write data to the second logical volume is not copied to the fourth logical volume.

20. (Canceled).

21. (Original) A method for operating a storage controller of a first storage system comprising:

providing a first logical volume and a second logical volume by using physical storage included in the first storage system;

providing a third logical volume and a fourth logical volume by using physical storage included in a second storage system, the second storage system being externally to and in data communication with the first storage system;

receiving one or more block-level I/O requests to the first logical volume at a first interface;

receiving one or more file-level I/O requests to the second logical volume at a second interface;

performing write operations to the first logical volume in response to receiving the block-level I/O requests;

performing write operations to the second logical volume in response to receiving the file-level I/O requests;

copying write data corresponding to the block-level write requests to the third volume; ~~and~~

copying write data corresponding to the file-level write requests to the fourth volume; and

upon receiving a split command directed to one of the first and second logical volumes, executing split processing on both the first and second logical volumes.

22. (Original) The method of claim 21 wherein the third logical volume is a mirrored volume of the first logical volume, wherein the fourth logical volume is a mirrored volume of the second logical volume, wherein when the~~if a~~ split command is

received, then write data to the first logical volume is not copied to the third logical volume and write data to the second logical volume is not copied to the fourth logical volume.

23. (Canceled).

24. (Original) A system comprising:

a first storage subsystem including physical storage, a first interface configured to receive block-level I/O requests, and a second interface configured to receive file-level I/O requests;

a second storage subsystem connected to the first storage subsystem, the second storage subsystem managing a plurality of logical units; and

a backup server connected to the second storage subsystem,

wherein the first storage subsystem presents a first logical volume for the block-level I/O requests by using the physical storage and a second logical volume for the file-level I/O requests by using the physical storage,

wherein the first storage subsystem presents a third logical volume and a fourth logical volume by using the logical units,

wherein the first storage subsystem copies data in the first logical volume to the third logical volume and data in the second logical volume to the fourth logical volume,

wherein the backup server backs up data in the logical units, and

upon receiving a split command directed to one of the first and second logical volumes, split processing is performed on both the first and second logical volumes.